

On Savage, Bayesian Statistics

Most or all of Savage's examples deal with situations in which evidence is available which does (or will) render situation~~x~~ quite unambiguous; a posteriori probs after observations are quite insensitive to earlier a priori probs (so you don't have to bother to measure those a priori probs, if you can assign bounds to them--?--so that you needn't expose yourself to the discovery that people may not obey Savage axioms with respect to those events before the observations are taken; and even if you did discover it, it wouldn't matter too much if observations are going to be taken, because they will obey axioms after observations are taken). Incidentally, doesn't Savage's argument indicate that gambling measurements of a posteriori probs after observations are taken will not determine a priori probs except within very broad limits? That would indicate that we could not predict, from the measured probs of a sample of people after observations have been taken, what their probs were before the observations (recorded earlier, say), or what the probs of a similar sample of people are who have not seen observations. True?

But Savage may not have so much to say about situations where such observations have not been made, i.e., where "evidence" with such unambiguous ~~simplifications~~ effects on plausibility is not available. Such problems include: a) choices among actions where such evidence is lacking for the consequences of any of them; b) choices among actions for some of which solid evidence as to consequences is available and for others not; c) the group decision problem; (d) the ~~the~~ problem of the "worth" of making such an experiment, where similar evidence is lacking earlier.

Savage is willing to assume, for small amounts of money, that utility is linear on money. This is reasonable (more reasonable than the converse), although I suspect that ~~some~~ people will apply decision rules really designed for gambles involving large sums of money to gambles with small sums, ~~indic~~ indicating a curvature in the utility function.

Savage implies (p. 6) that feelings of "vagueness" about likelihoods show up only in some vagueness as to the amount of money you would be willing to pay for gamble. But I suspect that feelings of vagueness may be associated with quite definite prices one will pay for a gamble (at least, no more vague than is associated with definite feelings of probabilities); vagueness about the probabilities, of a radical sort (not merely haziness, fuzziness), may show up instead in definite violations of the ~~axi~~ axioms, marked and persistent.

Savage defines a "coherent" person (p; 7) as one against whom you can't "make a book" so that he is sure to lose (assuming, I presume, that person understands the interrelations of the events he is betting on; e.g., that his bet on Red and his bet on Black refer to the same drawing), i.e., so that "he will be paying you money no matter what happens." In the next paragraph he implies that "consistency" in this sense implies adherence to the axioms, and later suggests that breach of his axioms is "incoherence." ("And presumably you don't want to be incoherent. I don't." p. 9) ISN'T THIS CROOKED? ~~DO~~ ARE MY SUBJECTS, VIOLATORS, "INCHOERENT" IN THIS SENSE?